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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,112	08/10/2001	Thomas C. Prentice	17549-109	7441

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EXAMINER

KOCH, GEORGE R

ART UNIT PAPER NUMBER

1734

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/928,112	<b>Applicant(s)</b> PRENTICE ET AL.	
	<b>Examiner</b> George R. Koch III	<b>Art Unit</b> 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 July 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 and 37-53 is/are pending in the application.
- 4a) Of the above claim(s) 37-44, 47-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 45, 46, 52 and 53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Election/Restrictions*

1. Newly submitted claims 37-44 and 47-51 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons.
2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-7, 45, 46 and 52-53, drawn to a dispensing system, classified in class 118, subclass 712.
  - II. Claims 37-44, drawn to a weight measuring apparatus, classified in class 73, subclass 1.43.
  - III. Claims 47-52, drawn to a dish for weighing, classified in class 177, subclass 262.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because there is no weight scale module

recited. The subcombination has separate utility such as being used to measure powders or gross articles.

4. Inventions I and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require a dish with an annular trough portion, or the relative proportions claimed. The subcombination has separate utility such as serving as a drinking dish, or holding particles.

5. Inventions II and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require a dish with an annular trough portion, or the relative proportions claimed. The subcombination has separate utility such as serving as a drinking dish.

6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

7. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, nor either of these searches required for Group III, restriction for examination purposes as indicated is proper.

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

9. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 37-44 and 47-51 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 102***

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 103***

11. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

12. Claims 1, 6 and 45, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bouras (US Patent 5,906,682) and Ackeret (US Patent 3,894,591).

Bouras discloses a dispensing system for accurately material on a substrate comprising a dispensing element (items 20 and 22) having a metering device (see column 4, lines 11-21), and a calibration device (item 52 and 54) with a dish (item 53) for receiving material from the dispensing element during a calibration routine (described generally throughout columns 5-10, see for example column 9, lines 38-62).

Bouras does not disclose that the dish includes a conical protuberance extending from the center portion of the dish.

Ackeret discloses that frusto conical shapes in measuring are known, but does not disclose dishes with conical protuberances extending from the center portion. However, one in the art would appreciate that the claimed shape of two conical structures, such as a protuberance in the dish and a cone in the calibration module, would be well known and conventional as it would enable proper placement of the dish at the proper location of the weigh module. One in the art would clearly recognize that accurate measurement would depend on maintaining constant conditions, including dish positioning. A conical protuberance would serve as the proper location matching structure that would allow proper positioning of the dish, thus improving consistency from calibration routine to calibration routine. Therefore, it would have been obvious to

one of ordinary skill in the art at the time of the invention to have utilized a conventional conical protuberance in the dish in order to provide accurate placement of the dish on the calibration apparatus.

Similarly, as to claim 45 and 46, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a well known and conventional frusto conical pedestal which matches with the conical protuberance of the dish in order to provide accurate placement of the dish on the calibration apparatus for the reasons stated above. Furthermore, such a shape would create an annular trough portion surrounding the protuberance, and one in the art would immediately appreciate that centering the protuberance in the annular trough would ensure consistent measurements from one calibration routine to the next by eliminating the need to monitor the orientation of the dish. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such an annular trough with the protuberance centered as claimed in order to ensure proper measurements.

As to claim 6, the dish of Bourasis capable of withstanding certain temperatures, such as room temperature, under which certain materials cure, as well as higher temperatures.

13. Claims 2-5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bouras (US Patent 5,906,682) and Ackeret (US Patent 3,894,591) as applied to claims 1, 6, 45 and 46 above, and further in view of Lee (US patent 4,836,315).

Bouras discloses a dish (item 53) on a calibration device (items 52 and 54), but is silent as to the properties of the dish. Bouras does not disclose that the dish is removably connected to the calibration device, or that the calibration dish includes a tab, or a protuberance, or is disposable, or that the dish is made of generally conductive material.

As to claims 2-5, Lee discloses a dish (Figure 1, item 19) removably connected to the calibration device, with a tab (visible in Figure 1) and a protuberance (also visible in Figure 1). The dish can be disposed with if desired. One in the art would immediately appreciate that these features allow for ease in disposing or removing the substance in the dish. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the removable dish with a tab and protuberance in order improve ease in disposing the quantity of liquid.

As to claim 7, Lee discloses that the dish can be made of phenolic resin (column 7, lines 10-17) which appears to meet the definition of generally conductive.

14. Claims 52 and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bouras and Ackeret as applied to claims 1, 6, 45 and 46 above, and further in view of Manser (US Patent 5,932,062)

Bouras and Ackeret as applied above do disclose the dispensing pump, the calibration system, and the dish, and make obvious the protuberance in the dish. Bouras discloses that the variable amount of fluid dispensed during calibration is used to calculated the parameters representing the dispensing parameters, i.e., the



Art Unit: 1734

dispensing velocity profile, and this dispensing during calibration is a calibration velocity profile which is representative of the dispensing parameters, i.e., the dispensing velocity profile (see columns 5-10, see for example column 9, lines 38-62)

Bouras and Ackeret do not disclose a gantry system for the dispensing pump.

Manser discloses the use of a gantry system for control the dispensing element. One in the art would appreciate that the gantry, in combination with the positioning controls, allow for proper placement of the dispensing element in a 3-dimensional coordinate system. Manser discloses that such a structure improves dispensing accuracy (column 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such a gantry in order to achieve dispensing accuracy.

The apparatus of Bouras, Ackeret, and Manser is capable of collecting the tail of material as claimed.

Furthermore, as to claim 53, the apparatus of Bouras, Ackeret and Manser is capable of repeating the calibration routine as claimed. Furthermore, it would have been obvious to ensure that the calibration device is constructed and arranged to determined a quantity of material dispensed during a calibration routine, wherein the quantity is compared with a target quantity of material to determined an error value. One of ordinary skill in the art would need to know when the amount provided was within the range or tolerance because machines cannot be expected to provide absolute zero tolerance from one dispensing operation to the next, and an error range is necessary to provide the calibration without an undesirable amount of time and cost.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a tolerance or error limit in order to provide calibration without an undesirable amount of time or cost.

15. Claim 53 is further rejected under 35 U.S.C. 103(a) as being unpatentable over Bouras, Ackeret and Manser as applied to claims 52 above and further in view of Cavallaro (US Patent 5,837,892). As to claims 53, Bouras does not disclose that the calibration device is constructed and arranged to determine a quantity of material dispensed during a calibration routine, wherein the quantity is compared with a target quantity of material to determine an error value. Bouras is, however, considered capable of doing so. Bouras merely discloses comparison and calibration (generally in columns 4-10).

Cavallaro discloses that the calibration device is constructed and arranged to determine a quantity of material dispensed during a calibration routine, wherein the quantity is compared with a target quantity of material to determine an error value (see columns 5 and 6). One of ordinary skill in the art would need to know when the amount provided was within the range or tolerance because machines cannot be expected to provide absolute zero tolerance from one dispensing operation to the next, and an error range is necessary to provide the calibration without an undesirable amount of time and cost. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized a tolerance or error limit in order to provide calibration without an undesirable amount of time or cost.

***Response to Arguments***

16. Applicant's arguments with respect to claims 1-7 and 37-53 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (703) 305-3435 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the

Art Unit: 1734

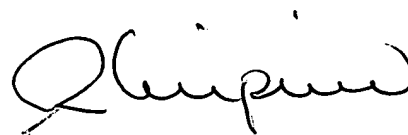
applicant can communicate by calling the Federal Relay Service at 1-800-877-8339 and giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



George R. Koch III  
October 20, 2003



RICHARD CRISPINO  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700